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Plying Scientific Disinterest: Morton, Agassiz, Nott, and Problems of American Ethnology in the Nineteenth Century

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Plying Scientific Disinterest: Morton, Agassiz, Nott, and Problems of American Ethnology in the Nineteenth Century

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Dedication

To my wife, Nilka.

Abstract

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The American School of Ethnology came into being at a tumultuous time in U.S. history. Debates over slavery intensified as did disagreements within ethnology over definitions of race and the meaning of species as it applied to mankind. Ethnology as a field of inquiry was straining to become a hard science, in the hope that it might explain man's origins and place in the natural world. Meanwhile, the disciplinary fluidity of ethnology saw theorists of every sort weigh in on these questions as its findings became a part of public and political discourse. This paper argues that the practice of ethnology during this time and the rise of the American School in particular were shaped by the careful manufacture and manipulation of science-like cues. Quantitative methods brought a new and respectable rigor to what had previously been a field of inquiry steeped in description and impression. I examine the ethnological careers of Samuel G. Morton, Louis Agassiz, and Josiah Nott, and plot their unique roles in the rise of the

American School as a movement, and argue that the manipulation of scientific disinterest and visual culture served as persuasive tools in furthering that program.

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Chapter 1:

Ethnology and Polygenism in the Context of American Science

In the years leading up to the outbreak of the American Civil War, the ongoing debate about the meaning of race in human categorization reached a new level of fervor and polarization as these questions bore upon public policy regarding slavery and definitions of personhood. Ethnologists as would-be scientists had been fumbling for a way to scientize race since the previous century, employing a variety of empirical methods to describe and qualify differences between various peoples. Meanwhile, ethnological writing as a publishing venture remained popular with American and European reading publics that were ever fascinated with questions and descriptions of variance in human form and culture. In fact, the tendency to correlate human physical form and culture yielded such provocative results that it fueled an appetite for ever more wild speculation about what these differences were and what they meant. Sub-fields of ethnology also spawned over time as various practitioners established their own areas of specialty, particularly where it involved the measurement or description of differentiated physical attributes. The purpose of these studies was to tie physical features and observed patterns of behavior to statements about permanent limits of intellectual capacity and levels of civilization among non-European peoples in particular. European civilization and its historical features and accomplishments remained the pinnacle of an ascending scale of measurement, and the metric of success and failure for non-European civilizations.

With the advent of craniometry and other methods of biometric study, ethnology gained the appearance of a new kind of authority. Craniometry in particular derived its supposed explanatory power from the same common sense assumptions that made phrenology popular for a time. In the case of phrenology, its adherents believed that morphology left clues to character and behavioral propensity. But with craniometry, cranial volume was widely believed to give a more meaningful measure of intelligence. Moreover, a statistical trend of cranial size, already accepting its bearing on intelligence, could reveal larger statistical patterns that applied to entire races. This transition from the qualitative to the quantitative was key, in that it appeared to give the ethnologists' interpretation of experimental results a different objectivity.

A small group of ethnologists, known as the 'American School,' stood at the forefront of this type of research in the decade preceding the American Civil War. This cadre of racial theorists included Samuel G. Morton, Josiah Clark Nott, Louis Agassiz, George Gliddon, and Ephraim Squier. Samuel G. Morton's *Crania Americana* was the seminal American work that attempted to construct a racial scale that correlated cranial capacity with other attributes of behavior and proclivity. Morton's follow-up treatise, *Crania Aegyptica*, further solidified his reputation as a thorough and impartial scientist. The impact of these two books, particularly in their comparative craniometric studies, was the springboard of the American School as a research program.

This story sits at a juncture of the history of anthropology, the history of race as a construct, and natural history. These strains have often been mistakenly thrown together. The story of the American School of Ethnology is an important instance of pre-

Darwinian biologists' attempts to bring mankind into natural history. The process was a clumsy one at best. More pointedly, both early and present attempts to make biological sense of the concept of race have foundered on man's inability to separate differences in appearance between human groups from differences that are biologically real. In the absence of any understanding of individual or populational genetics, it is not surprising that overt morphological features and other phenotypical characteristics became the basis for various denigrating racial schemas. The concept of race began as a way to note and categorize differences at a time when the dominant program in natural history was taxonomic in its goals. If eighteenth-century Linnean-inspired taxonomy was preoccupied with finding unifying characteristics in order to make sense of the natural world, its nineteenth-century counterpart was more concerned with finding and documenting differences. In the presence of homology of function within one species, researchers could now differentiate and reclassify according to size and shape. Scientists and casual racial theorists built careers and reputations on being the first to chart this territory.

This paper will argue that the American School of ethnology was not a monolithic or organized movement, and that its very inception represented a crisis in a field of inquiry that was straining to become a hard science. The appearance of scientific disinterest was the stock-in-trade of American ethnology, especially in the promotion of findings that, under the cloak of seeming impartiality, supported the institution of slavery. Many scholars have emphasized its adherents' polygenism – the belief that mankind originally arose from multiple origins – as the signifying feature of the American School.

Yet the roots of polygenist thinking trace back to Europe a century prior to the inception of the American School. To suggest that polygeny alone was the telling feature of this group ignores the fact that prominent polygenists of Europe preceded and greatly outnumbered their American counterparts.

Moreover, the crisis of ethnology by mid-century stemmed largely from the absence of guidelines for its correct practice. One needed only to be a curious medical doctor or a learned amateur with opinions on the implications of race to become an acknowledged expert. It was a gold rush of wild speculation. This was a problem of professionalization, and the consequences of racial theorizing gone awry were socially and politically dire at a time when the fates of millions in bondage could be decided by such a 'science' as this.

The involvement of Louis Agassiz in the American School is also problematic. Agassiz's exact role in the promotion of the American School's agenda, I will argue, has been in some measure distorted by his association with Josiah Clark Nott. Nott understood the implications of having Agassiz as an ally. In contributing his short essay to Nott's book *Types of Mankind,* Agassiz made a choice that was plausibly defensible to his abolitionist colleagues at Cambridge, with tragic consequences to his legacy as a scientist. To be sure, Agassiz did believe in separate origins of the races of man. His conversion experience to this way of thinking after arriving in the United States is well documented. But it is doubtful that Agassiz, an avowed abolitionist, knew beforehand the degree to which *Types of Mankind* in final published form would attempt to justify the institution of slavery. Therefore, appellations of Agassiz as the “father of scientific

racism" in brief hyperbolic journal articles ring as simplistic and disingenuous. The reasoning behind Agassiz's adoption of polygenesis as a theory of human origins was a good deal more complex than a simple abhorrence of the appearance of black people. Rather, Agassiz's support of polygenesis fitted neatly within a larger program of biogeography wherein he theorized that species not only remained fixed, but thrived in the zones in which they were placed by the Creator. His participation in the American School was motivated chiefly by his realization that multiple origins of mankind explained not only human diversity in the present, but the seeming continuity of these differences through time.

Yet for all of the documentation of Agassiz's polygenism in secondary literature, the paucity of his own writing and publishing on the subject seems to escape notice. Agassiz was among the most prolific writers of natural history in the nineteenth century, but on the subject of polygenism his main contributions are but three articles for the *Christian Examiner* from 1850 to 1851 and one essay for Nott's *Types of Mankind.* Upon reading the latter, one might even conclude that it hardly belongs in the book. This suggests that Agassiz was not as active in promoting polygenesis as Nott and Gliddon were. As an author of many significant book-length works, he never wrote a book on polygenism, and he abandoned whatever plans he had for his 'slave daguerreotypes,' a series of early photographs Agassiz commissioned in 1850. The fact that Agassiz backpedaled on the human species question also places him in a unique category and somewhat out of step with the other polygenists who made no such claim. He suggested that all the races of mankind were biologically related through the Creator, and therefore

the same species. They just happened to have separate origins.

Last, on the issue of professionalization in ethnology, I will argue that the degree to which the motivations of the American School were anticlerical deserves more careful attention. Some scholars have emphasized the American School's use of polygenism as a potential defense of slavery to the exclusion of any other founding motivation. While this is certainly true, at the heart of the debate lay the verity of the Mosaic story of creation, and more broadly, the authority of the Bible in questions of natural history. Josiah Nott, Louis Agassiz, and Samuel Morton – the principal and most notable members of the American School – were all vocal critics of naturalist clergymen who catered every finding to fit with its corresponding biblical narrative. Morton in particular engaged in a very public and at times heated debate about hybridity and the human species question with John Bachman, a pastor and highly respected naturalist from South Carolina. Josiah Nott was also vocal in his opposition to clergy naturalists, including Bachman, and was known to loudly denounce and even ridicule attempts to defend monogenism on biblical authority. In short, Nott and Agassiz in particular wanted to rid natural history of what they saw as meddling amateur clergymen, and they sought to make ethnology into a science of professionals not constrained by biblical literalism when interpreting empirical findings and drawing conclusions.

Chapter 2:

Polygenism, Monogenism, and the Rise of the American School

In order to understand how polygenism arose in American ethnology in the nineteenth century, it is important to place it in a larger historical framework. The belief in multiple origins of mankind was not an American creation, but had many precedents in European thought in the eighteenth century and in some scattered cases, even earlier. Among religious polygenists who sought to reconcile their belief in multiple origins with the words of the Old Testament, there were two subdivisions. Pre-Adamites believed that God had created earlier gardens of Eden elsewhere in the world and that therefore other races originated on the earth before the biblical Adam. Co-Adamites, on the other hand, believed that multiple centers of creation were enacted by God concurrently. Adherents to both models of creation are found throughout history going back to the early medieval and ancient world, but for the purposes of this study we will look briefly at two figures in European polygenist thought who brought about the monogenist response in early nineteenth century America.

Two figures who loomed large in eighteenth century European polygenist thought were Henry Home "Lord Kames" and Charles White. Both were co-Adamites. Lord Kames, a notable figure in the Scottish Enlightenment, wrote *Sketches of the History of Man*, in which he suggested that physical differences between the races could not have arisen from environmental causes, but were a result of special creation in ideal zoological zones each with its own specialized climate. He writes:

> Now more particularly of man, after discussing other animals. If the only rule afforded by nature for classing animals can be depended upon, there are different species of men as well as of dogs: a mastiff differs not more from a spaniel, than a white man from a negro, or a Laplander from a Dane. And if we have any belief in Providence, it ought to be so. Plants were created in different climates, and so were brute animals. Certain it is, that all men are not fitted equally for every climate. Is there not then reason to conclude, that as there are different climates on the earth, so there are different species of men fitted for these different climates?[1]

One of the central points in Kames' argument was to assail the biological rule laid down by Georges-Louis Leclerc, Comte de Buffon, which stated that any two animals capable of procreating and bearing fertile offspring were of the same species. Kames responded with examples to the contrary, such as the camel and the dromedary, suggesting outright that Buffon's principle was "a very artificial rule for ascertaining the different species of animals."[2] In effect, Kames' approach was an attempt to redefine what were then and today commonly known as 'breeds' – he wrote much of dogs on this point, for example – and designate them as differing species under a common genus. Many believers in the common origin of man, known as 'monogenists,' explained differences of morphology and appearance through the influence of climate. Kames also refuted this, suggesting that all species were so ideally suited to their native climates that they must have been created

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1 Home, Henry (Lord Kames). *Sketches of the History of Man*. Dublin. 1779. Third edition. Volume 1. p.11.

2 Ibid., p. 6.

specifically to exist there.

Charles White, an English surgeon and racial theorist who specialized in obstetrics and human embryology, provided an early basis for polygenism that was more analytical and empirical than that of Lord Kames. His *Account of the Regular Gradation in Man, and in Different Animals and Vegetables; and From the Former to the Latter*, published in 1799, took a similar stance to Kames on the irrelevance of environment in the forming of species. White conducted direct comparisons of morphology between the different races of humans as well as between humans and animals. In his section on human gradation, he cited an observation recorded by the anatomist John Hunter wherein European, Asiatic, American, and African human skulls were placed on a table. He noted from Hunter's observations that the visible attributes of the skulls did not vary in marked jumps, but in gradations. Hunter then placed the skulls of a monkey and a dog on the table to study the gradation in shape of the skulls as a whole, and in the upper and lower jaws. White noted that, "On viewing this range, the steps were so exceedingly gradual and regular, that it could not be said that the first differed from the second more than the second from the third, and so on to the end. Upon considering what Mr. Hunter thus demonstrated respecting skulls, it occurred to me that Nature would not employ gradation in one instance only, but would adopt it as a general principle."[3] White also included in this work an appendix of illustrations purporting to show the gradations of man ascending left to right from "Negro," "American Savage," and "Asiatic" toward the "European" and then Roman and Greek classical ideals at the extreme height of development. Owing to

[3] White, Charles. *Account of the Regular Gradation in Man, and in Different Animals and Vegetables; and From the Former to the Latter.* London. 1799. P. 41.

the fact that the illustrations are of the profiles of skulls only, the most obvious feature that White brings out in this comparison is the slope of the face. As we move left on the diagram, the human faces, particularly the noses, tending toward the "Negro" example begin to resemble the snout of a primate or canine. At the furthest leftward extreme sits the profile of a nondescript mammal, completing the trend of facial slopes White hoped to illustrate.

It was views such as these that the American philosopher and theologian Samuel Stanhope Smith (1751-1819) found utterly intolerable as both a Christian and natural philosopher. Smith was a Presbyterian minister originally from Pennsylvania who later served as president of the College of New Jersey, later Princeton University, from 1795 to 1812. His book, *Essay on the Causes of the Variety of Complexion and Figure in the Human Species*, first appeared in 1787 and remained a seminal work of ethnology through its expanded reissue in 1810. It is the first important work of American ethnology that addressed the question of human races and whether or not they constituted a single species. On that question, Smith's views fell heavily on the side of monogenesis. Even among Christian monogenists, Smith's arguments ring as remarkably egalitarian, particularly in reference to the features of blacks. On the question of the cause of dark skin in the African race, Smith suggested that its occurrence was not unlike the incidence of freckles in European people, except that it covered the entire body. This "universal freckle," as Smith labeled it, was allegedly caused by an increased secretion of bile that resulted from exposure to sun and heat in southern climates.[4]

[4] Smith, Samuel Stanhope. *Essay on the Causes of the Variety of Complexion and Figure in the Human*

Central to Smith's argument was the observation that since so many prior theorists had devised varying numbers of racial divisions, the distinction was clearly arbitrary. What constituted a unique race was simply a matter of the features to which an observer gave delineating importance. In a similar vein to that of Charles White, though with differing theoretical conclusions, Smith saw gradations as problematic for those who tried to identify and support marked differences between the so-called races, and even went so far as to discount the idea of 'race' as a valid taxonomic or biological indicator. If Johann Friedrich Blumenbach had either observed or contrived five races of man, and Linneaus and Leibniz four races, then what of Buffon's six races, and the other classification schemes of Immanuel Kant, Dr. John Hunter, and numerous others? On this point, Smith stated that "the conclusion to be drawn from all this variety of opinions is, perhaps, that it is impossible to draw the line precisely between the various races of men, or even to enumerate them with certainty; and that it is in itself a useless labor to attempt it."[5]

By the 1830s, the rise of abolitionism in America began to reframe the debate over the functional definitions of 'race' and 'variety' in human typology as they bore upon the species question. It was in the year 1830 that the American physician and anatomist Charles Caldwell published *Thoughts on the Original Unity of the Human Race* in support of polygenism. Caldwell's book assailed the monogenist views of Samuel Stanhope Smith and the more recent work of British ethnologist James Cowles Prichard. Caldwell can by some definition be called an early member of the American School, though he did not have an authorship role in any of the collaborative works of Morton

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Species. J. Simpson and Company. New Brunswick. 1810. Pp. 49-53.

[5] Ibid., p. 240.

and Nott. Still, by this time the polygenist position began to take on the appearance of a movement in the United States.

Chapter 3:

A New Science of Man, and a Different Professionalism

Debates about the races of mankind intensified in the 1840s and 1850s as the controversy raged over the admission of western territories to the union. During this time it became fashionable not only in political circles but in public discourse to be able to muster the latest findings or speculations in the new science of race. This is what American ethnology had become by this time. The fallout from the Mexican-American War, with the acquisition of Texas, New Mexico, and California, in addition to territories of the Midwest whose fate remained undecided, made the determination of the biological status of African slaves as well as Native Americans all the more pressing. Many were eager to voice their opinions in these debates, but all the better if one had the weight of science behind one's argument.

By all accounts, the rise of a new science was at hand. In matters that bore on issues so emotionally charged as race and slavery, the apparent scientific *disinterest* of authorities on the matter was of the greatest importance. If Enlightenment ideals about the rights of man declared that all men were born free and should remain so, then those supporting the institution of slavery needed only to find an allied scientific position espoused by experts with no personal stake in the matter. This is why the views of scientists who were avowed abolitionists such as Louis Agassiz carried so much influence. He was merely calling these biological divisions as he saw them. Agassiz, who lived and worked in Cambridge, Massachusetts, and courted close friendships with

people on both sides of the slavery argument, was quick to point out that he did not support the institution. He is for this reason an odd case, as he possessed a certain bonhomie that enabled him to remain for the most part on good terms with southern slavery advocates he knew as friends, as well as abolitionists who respected and deferred to his reputation as a scientist. In what is perhaps a classic case of Swiss neutrality, Agassiz managed like no other to pander to pro-slavery audiences when it suited him, while at the same time fitting in the Cambridge Unitarian circles into which he married, and cementing close friendships with the likes of Ralph Waldo Emerson and Henry Wadsworth Longfellow.

Also problematic at this time was the disciplinary fluidity of both ethnology and natural history. Natural history in the nineteenth century as now has always been a broad tent, encompassing a variety of fields. In antebellum America, men of varied backgrounds would move, think, and publish freely on any subject that interested them, even if it were only tangentially related to their formal training. This was also an era when new ideas about 'deep time' and the age of the earth were redefining scales of time for biological questions and indicating possible change within the organic world. Biology as a mature science did not yet exist by the 1840s. As with many fields, it developed in fits and starts. Ideas about human brain function as the seat of intelligence and behavior, for example, were still clouded by the false ascriptions of phrenology. Men observed correlations and formulated laws with nary a notion about mechanisms.

The problem of disciplinary fluidity within ethnology in particular was even more acute. Ethnology, not unlike geology, was what one might label a 'hot science' of the first

half of the nineteenth century. The lure of pressing and interesting questions in a field that lacked an established track of professional training more or less assured that anyone with an educated opinion (whatever that might have been, in this case) could find a voice in ethnology. It was the heyday of ethnology, which was itself plagued by the gold rush mentality that often accompanies a new and burgeoning field.

In a very real sense, the ethnological debates of this period that pertained to race amounted to a competition between two groups. Many of the polygenists – Agassiz, Morton, Nott, and others – were European-trained anatomists and medical doctors who believed themselves to be the final authority on questions of human physiology. The monogenists, on the other hand, were a diverse group of pro- *and* antislavery naturalists, dilletantes, and clergymen who believed, whether on religious or empirical grounds, that mankind's origins could only be traced to a single pair. This was further complicated by the fact that many antislavery monogenists were also non-egalitarian, as were, one might expect, most polygenists. The real dilemma of both the monogenist and the polygenist causes was that overt and consistent differences did exist between the so-called races, and according to the Mosaic time frame, seemed to persist throughout human history. How does one account for such differences? In order to explain the consistency between the shapes and measurements of negro and Egyptian skulls of four thousand years ago and those of the mid-nineteenth century, for example, one had to greatly extend the time frame of human history in order to prove linear descent of all races from a common ancestor.

The fallout from this realization was that the new professional class in natural

history found themselves increasingly at odds with biblical accounts of human natural history and the clerical advocates of these accounts. Working professionals like Agassiz, Morton, and Nott who were practicing doctors and teachers became less tolerant of their critics among the clergy and saw no need to toe the line of biblical literalism as evidence to its questionability continued to mount. If the ousting of amateurs is an inevitable consequence of professionalization, then the new professionals in this instance indeed had a battle on their hands. Many of the premises and conclusions of the polygenists were also offensive to the Protestant sensibilities of laymen, north and south alike, pro and antislavery alike, meaning that the clergy usually found easy allies in the general public.

Another battle played out rather more subtly between American ethnology and its European counterpart. By the mid-nineteenth century, American science was still finding its footing and resided largely in the shadow of European science in more or less every field. But with ethnology, the luck of geography and circumstance had placed America in a unique position. As Henry Patterson wrote in 1854, in an introductory essay of *Types of Mankind*:

> There are reasons why ethnology should be eminently a science for American culture. Here, three of the five races, into which Blumenbach divided mankind, are brought together to determine the problem of their destiny as they best may, while Chinese immigration to California and the proposed importation of Coolie laborers threaten to bring us into equally intimate contact with a fourth. It is manifest that our relation to and management of these people must depend, in a

> great measure, upon their intrinsic race-character. While the contact of the white man seems fatal to the Red American, whose tribes fade away before the onward march of the frontier-man like the snow in spring (threatening ultimate extinction), the Negro thrives under the shadow of his white master, falls readily into the position assigned him, and exists and multiplies in increased physical well-being.[6]

Ethnologically, America was an experiment in societal race mixing the likes of which Europe had never experienced firsthand. This would surely put America ahead, by this reasoning. It is noteworthy that Patterson, in his ode to Samuel G. Morton, expressed not only the optimism people felt about ethnological study and its promise as an American science, but he also managed to insert the suggestion, so oft-repeated at the time and for a half century after, that the disappearance of Native Americans from the landscape happened almost deterministically in the present of whites. These attitudes toward Native Americans and Negroes were central theses of *Types of Mankind*. Meanwhile, Negroes in the United States were said to thrive only in so far as they remained under the control of whites.

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[6] Patterson, Henry S. *Memoir of the Life and Scientific Labors of Samuel G. Morton*. Lippincott, Granbo, and Company. Philadelphia. 1854. Pp. xxxii-xxxiii. (Reprinted from Nott, Josiah Clark. *Types of Mankind*. 1854. Pp. Xxxii-xxxiii).

Chapter 4:

Samuel G. Morton, *Crania Americana*, and *Crania Aegyptica*

It was Samuel G. Morton (1799-1851) who authored the seminal works that launched the American School. Morton, a native of Philadelphia, took his undergraduate degree at the University of Pennsylvania in 1820, and through the help of a wealthy uncle in Ireland, managed in 1823 to earn an advanced degree in medicine at the University of Edinburgh.[7] Morton was a classic example of the high achieving professional naturalist of his time. While operating his medical practice in Philadelphia, he taught as a professor of anatomy at Pennsylvania Medical College, which he also co-founded. He eventually held the position of secretary of The Academy of Natural Sciences in Philadelphia. His talents and interests were quite broad, as he avidly studied, collected, and wrote about geology and various fields of natural history. Morton's first claim to fame was as the author of *Synopsis of the Organic Remains of the Cretaceous Group of the United States*, published in 1834. He had been commissioned in the project to organize and analyze the fossils collected by the Lewis and Clark expedition and publish his findings.

Morton had a penchant for collecting human skulls, dating back to 1820. This led to his amassment of what eventually became one of the largest such collections in the world. At its apex, the collection – nicknamed the "American Golgotha" – was reputed to house over one thousand specimens. Morton was often of ill health throughout his life, so he never actually spent time in the field. Instead he relied on others to send the skulls

[7] Stanton, William. *The Leopard's Spots*. University of Chicago Press. Chicago. 1960. P. 26.

that they found back to Philadelphia where he collected and studied them. Many of the submissions came in response to a prospectus Morton drew up when he first had the idea of performing a broad study of human crania. As William Stanton points out, it was strong testament to Morton's reputation as a scientist that so many would go out of their way to add to his collection.[8]

The first published result of Morton's study of skulls was *Crania Americana*, which was released in 1839 to broad acclaim by the public and scientific community. Morton already enjoyed a reputation as a thorough and impartial researcher of the natural sciences, and this book only added to that standing. The format and dimensions of the book itself were impressive, amplifying the effect of the contents. This is one of the themes of nineteenth century ethnology that I argue to be problematic. The impression of an ethnological work as accurate and scientific to the lay reader had much to do with its presentation, and those who issued such works knew this. Large, apparently exhaustive works with profuse illustrations were what made careers in the ethnology of the day. The concluding section of the volume was lavished with page after page of illustrations of many of the cataloged skulls, all of them rendered photo-realistically with great care and precision. Whatever the conclusions and speculations Morton ventured in the essay portion of the book, the illustrations and ample tables crammed with statistics gave the appearance of undeniable credence to his interpretations of the data.

The primary goal of *Crania Americana* visually was as an exposition of the Native American skulls Morton housed in his collection. However, the opening essay,

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[8] Ibid., pp. 27-28, 30.

titled "On the Varieties of Human Species," began with a remark about the historical permanence of human types in every region of the earth, asserting that the "physical and moral peculiarities" of the various races of man have remained distinct and unchanged.[9]. Morton then set down his theory of biogeography as it related to special creationism, and with this he went on to refute all environmental theories of race:

> We may inquire, whether it is not more consistent with the known government of the universe to suppose, that the same Omnipotence that created man, would adapt him at once to the physical, as well as to the moral circumstances in which he was to dwell upon the earth? It is indeed difficult to imagine that an all-wise Providence, after having by the Deluge destroyed all mankind excepting the family of Noah, should leave these to combat, and with seemingly uncertain and inadequate means, the various external causes that tended to oppose the great object of their dispersion: and we are left to the reasonable conclusion, that each Race was adapted from the beginning to its peculiar destination. In other words, it is assumed, that the physical characteristics which distinguish the different Races, are independent of external causes.[10]

Following his negation of environmental influences on appearance, Morton made what amounted to a subtle and cautious statement about polygeny:

> Much has also been written in reference to the *unity* of the human species: the affirmative opinion is sustained by Linnaeus, Blumenbach, Cuvier, and many other distinguished naturalists; yet on the contrary, Virey has divided mankind

[9] Morton, Samuel George. *Crania Americana*. J. Dobson, Chestnut Street. Philadelphia. 1839. P.1.
[10] Ibid., p.3.

> into two species, Dumoulin into eleven, and Bory into no less than fifteen. Finally, a French professor, overstepping the barriers of reason and nature, has attempted to establish several subgenera.[11]

This statement is telling, for it shows that at the time of the writing of *Crania Americana* in 1839, Morton was not yet ready to openly declare himself a polygenist. At this point, even he acknowledged the pitfalls and excesses that could result from too liberal a definition of species.

Morton, utilizing Johann Friedrich Blumenbach's system of five primary races or varieties of man, subdivided the races into twenty two families. He then enumerated them with verbal descriptions of facial appearances, but with an odd inclusion. Each description ended with a statement about the morals and proclivities of the race in question. Thus of the Caucasian Race, Morton wrote of the "large and oval" skull with the "full and elevated" anterior portion, the "well-proportioned features," arched nasal bones, and so forth. But he concluded the section by saying that "This race is distinguished for the facility with which it attains the highest intellectual endowments."[12] One can only assume this to be a tip of the hat to phrenology, in light of the essay by George Combe included later in the book. The descriptions of the other four primary race headings indicate what amount to a *scala naturae* of morality and civilized attainment – qualities that one could never reasonably impute to an individual by his appearance, much less to an entire group or race. Following a physical description of the Mongolian Race, we are told that they "are ingenious, imitative, and highly susceptible of

[11] Ibid., p.4.
[12] Ibid., p.5.

cultivation."[13] The Malay Race "is active and ingenious, and possesses all the habits of a migratory, predaceous and maritime people." The American Race is "averse to cultivation, and slow in acquiring knowledge; restless, revengeful, and fond of war, and wholly destitute of maritime adventure."[14] Finally, of the Ethiopian Race we learn that "in disposition the negro is joyous, flexible, and indolent; while the many nations which compose this race present a singular diversity of intellectual character, of which the far extreme is the lowest grade of humanity."[15] Morton without subtlety or hesitation derived judgments that border on biological determinism based on physical appearance and a selective reading of history.

The real innovation in Morton's study of the crania in his collection was in the thirteen measurements he performed on most groups in order to average the results within each group and then compare the data between groups. Of particular importance was the measurement of cranial volume, which he initially performed with white pepper seed and later with fine lead shot. This measurement in particular, and the inferences drawn from it, would figure into its use as a tool of racial bias.

Crania Americana was a revolutionary departure from the ethnological treatises of the eighteenth and early nineteenth centuries, and Morton's reputation as a first rate ethnologist only grew because of it. Unlike other works on comparative anatomy, Morton's study was heavy on statistics and realism in illustration and light on opinion and embellished language. *Crania Americana* was a book of science in the Humboldtian

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[13] Ibid.
[14] Ibid., p. 6.
[15] Ibid., p. 7.

exploratory sense, one of measurement and documentation.

While the implications of Morton's statistical work have been documented by other scholars, the significance of the drawings and engravings in the history of scientific illustration has been largely overlooked. Morton's accomplishment was comparable in its impact to a John James Audubon or Leonhart Fuchs illustration, but with an important difference. Where Audubon's and Fuchs' purpose was to illustrate the ideal type of a specimen – the species in abstract through concrete, expected detail – Morton documented individual specimens in multitude. Each skull was a cataloged item with an identity, portrayed and measured with the expectation that it would provide a unique and by extension*, aggregate,* proof of something essential in that ethnic group. Throughout the book, the reader witnesses innumerable line drawings of the skulls, documenting their individual shapes. The reader is then treated to an appendix of illustrations intended to leave no doubt as to their accuracy and realism. Absent were fanciful extrapolations and illustrated continua of human skulls and faces placed in tables comparing the facial angle of "lower races" to that of primates and other wild animals.

Moreover, the skulls were not documented as aberrant curiosities. One is reminded of the anatomical studies and illustrations made of Saartjie Baartman, the so-called "Hottentot Venus." Every studied feature of Baartman's anatomy, particularly her protruding buttocks, was done in caricature when illustrated, much to the delight and fascination of European ethnologists and enthusiasts. One might be tempted to dismiss the case as another ethnological sideshow, even though Cuvier himself was involved in the study. But images are convincing. Scientific illustrations are powerful for their

suggestive efficacy, and can often carry an agenda. Traditionally, if an ethnologist wanted to reveal "the savage" of locales and cultures he deemed of lower civilization, he could commission an artist to blend the real with a fabrication of the grotesque. Audiences of popular sciences like ethnology tended to believe what they saw. Morton, in contrast, took great pains in *Crania Americana* to visually document the subjects without exaggeration. But there is another side to this as well. *Crania Americana,* for all of its realism and accuracy, established a precedent that could be manipulated in later works, and it indeed was.

Five years after the release of *Crania Americana*, Morton published *Crania Aegyptica*. Though a less lengthy and imposing work than its forerunner, it attempted a goal no less ambitious. Morton had been in touch with George Robins Gliddon, an English Egyptologist and former U.S. vice-consul to Egypt, since before the publishing of *Crania Americana.* Gliddon had traveled throughout the United States giving lectures on Ancient Egypt, and by all accounts he was a scholar or a showman, depending on what suited or benefited him. He was well-trained as an Egyptologist, however, having studied under numerous authorities in Europe.[16] William Stanton points out that Gliddon's arrival in the United States coincided with the rising popularity of Egyptian antiquity with American audiences.[17]

It was Gliddon who supplied Morton with the skulls from Egypt that comprised the specimens for *Crania Aegyptica*. Ostensibly the book is an expository work of ethnology. It has ample finely drawn illustrations of mummified skulls, descriptions of

[16] Stanton, *The Leopard's Spots*. Pp. 46-50.
[17] Ibid.

the same, and measurements. But Morton also supplied a running commentary on each ethnic group, and it is there that an agenda emerges. Throughout the book, Morton wrote of historical events and migrational flows, and accompanied them with comparisons between certain groups of skulls based on similarities in their measurements.

The overriding goal of *Crania Aegyptica* was to shed light on an age-old question. All available evidence suggested that Ancient Egypt had achieved a high level of culture and civilization, and it had done so at a very early stage in history. Even written accounts from Ancient Greece and Rome placed Egyptian attainments in architecture, agriculture, and written language at a temporal stage that challenged Archbishop James Ussher's famous biblical chronology, wherein human history was said to begin at 4,004 B.C.E. Morton, through exposure to Gliddon, had no apparent difficulty in accepting that the time frame of human history might extend much further than Ussher's estimate, though this contradicted assumptions he made in writing *Crania Americana*.[18]

The possible origins of Ancient Egyptian civilization, however, were problematic, especially in the context of the American antebellum slavery debates. The future of the 'peculiar institution' might be either assured or cast further in doubt based on an inductive look at its staying power through history. As Morton is quick to point out:

> We have the most unequivocal evidence, historical and monumental, that slavery was among the earliest of the social institutions of Egypt, and that it was imposed on all conquered nations, white as well as black. So numerous was this unfortunate class of persons, that it was the boast of the Egyptian kings, recorded

[18] Ibid., p. 50.

> by Diodorus, that the vast structures of Luxor and Karnak were erected by the labour of foreigners alone. Of Negro slavery, in particular, the paintings and sculptures give abundant illustration.[19]

Morton goes on to quote "Sir G. Wilkinson" – presumably Sir John Gardner Wilkinson, the famed British Egyptologist – who stated that "black people, designated as natives of the *foreign land* of Cush, are generally represented on the Egyptian monuments as captives or bearers of tribute to the Pharaohs;" and adds that "the attendant circumstances of this inhuman traffic appear to have been much the same in ancient as in modern times."[20]

The purpose of these annotations is quite clear. Morton was attempting to show that the Negro Race, wherever it encountered lighter skinned races of Europe and the Middle East, had always existed in bondage. Through an inductive appeal to historical evidence, Morton hoped to demonstrate something structural. If slavery could be shown to have occurred as a natural and recurring consequence in history, and if it had always involved the Ethiopian Race as the subjugated people, then the mid-nineteenth century moral dilemma of slavery might be rendered moot. If this were true, then the question of whether slavery continued to exist or ended might very well lie outside of human control, and the fact that it was extant to begin with would leave no one to blame.

Morton also needed to divorce the accomplishments of Ancient Egyptians from darker-skinned Sub-Saharan Africans. He attempted this through cranial comparisons in

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[19] Morton, Samuel George. *Crania Aegyptica; Or, Observations on Egyptian Ethnography, Derived From Anatomy, History and the Monuments.* John Penington, Chestnut Street. Philadelphia. 1844. P. 59.

[20] Ibid.

which he found similarities – again, supported by quantitative measurements – between Ancient Egyptian skulls and "Hindoo" skulls of Morton's own time. He writes, "It is in that mixed family of nations which I have called Austral-Egyptian that we should expect to meet with the strongest evidence of Hindoo lineage."[21] Morton found much of his supporting evidence in interpretations of Egyptian art and hieroglyphics. He also noted that Blumenbach and others had previously observed similarities between Egyptian and Hindu crania, body size, and skin complexion.[22]

Crania Aegyptica received rave reviews, and like *Crania Americana*, was hailed as a revolutionary and groundbreaking work in ethnology. William Stanton notes that such luminaries in the field as James Cowles Prichard and Anders Retzius were eager to voice their approval of Morton's work. Prichard even went so far as to suggest that it was a uniquely American achievement, since in no other country had anyone taken the pains to amass such a collection that would make such a study possible.[23]

Yet the danger – or utility, depending on one's point of view – of *Crania Aegyptica*'s conclusions about slavery and the condition of the Negro Race became apparent upon the book's release. George Gliddon, finding himself in Washington, D.C., after a trip to Charleston where he had been promoting the book, was called upon by Secretary of State John C. Calhoun. Calhoun sought the opinion of an expert on ethnology during a diplomatic negotiation with France and England over the annexation of Texas following the Mexican-American War. Gliddon was quick to notify Morton of

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[21] Ibid., p. 50.
[22] Ibid., p. 51.
[23] Stanton, *The Leopard's Spots.* Pp. 51-52.

this request, and Morton in response sent Calhoun copies of both *Crania Americana* and *Crania Aegyptica*. Gliddon also included a letter from Morton and one from himself, and through this correspondence, supplied Calhoun with all of the information he felt he needed to argue in favor of continuing the institution of slavery in Texas. As Josiah Clark Nott recounts of the incident:

> He (Calhoun) soon perceived that the conclusions which he had long before drawn from history, and from his personal observations in America, on the Anglo-Saxon, Celtic, Teutonic, French, Spanish, Negro, and Indian races, were entirely corroborated by the plain teachings of modern science. He beheld demonstrated in Morton's works the important fact, that the Egyptian, Negro, several White, and sundry Yellow races, had existed, in their present forms, for at least 4,000 years; and that it behooved the statesman to lay aside all current speculations about the origin and perfectibility of races, and to deal, in political argument, with the simple facts as they stand.[24]

In 1849 Morton published his *Catalogue of Skulls of Man and the Inferior Animals*, in which he compiled all of the data for his entire collection of crania. It was in this volume that he included his now infamous table, which displayed all of the data for cranial volume for each of the five races, measured in cubic inches.[25] Of the thirteen cranial measurements he performed, this was to him the most important, the most determinant. Here was Morton's *scale naturae* laid bare. The table makes the clear case

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[24] Nott, Josiah Clark; Gliddon, George Robins. *Types of Mankind.* Lippincott, Grambo, and Company. Philadelphia. 1854. P. 51.

[25] Morton, Samuel George. *Catalogue of Skulls of Man and the Inferior Animals.* Third edition. Merrihew and Thompson. 1849. P. viii.

for a hierarchy of races, based on the assumption that greater cranial capacity implies higher intelligence, and higher culture. Referring back to Morton's earliest work on ethnology, *Crania Americana*, his descriptions of the various races correspond to this assumption about cranial volume and intelligence. Negroes, he wrote, were "fond of warlike enterprises, and … not deficient in personal courage; but, once overcome, they yield to their destiny."[26] They are prone to "inveterate indolence and gluttony, devouring every kind of animal garbage that falls in their way."[27] "They have little better idea of cleanliness than the brute creation."[28] "They are to the last degree filthy in their persons and gluttonous in their eating; and their dances betray the licentiousness of their morals."[29] The other races, corresponding to their intermediary position in the ranking, earned descriptions somewhat better than the Ethiopian Race, though none are "celebrated for superior personal endowments," possess "exquisite beauty of form," or "exhibit that elevated cast of countenance so universally admired" as the Caucasian race does, according to Morton.[30]

The evolution of Morton's ideas and writing career followed an arc that parallels the problems of nineteenth century ethnology outlined in this study. Morton possessed all of the necessary attributes needed to give polygenism credibility. He had a reputation for impartiality and scientific disinterest, and he was a northerner who was not an overt apologist for the institution of slavery. He possessed a collection of specimens that rivaled or surpassed any in the world, from which to speculate and draw his conclusions.

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[26] Morton. *Crania Americana*. P. 87.
[27] Ibid., p. 90.
[28] Ibid., p. 91.
[29] Ibid., p. 93.
[30] Ibid., pp. 8, 12.

Large collections are, and have ever been, compelling in the study of natural history. To possess such a collection gave the authoritative basis to change or bolster ideas about human typology. The famous 1830 debate between Cuvier and Geoffroy St. Hilaire had quieted the conversation about evolution in favor of Cuvier's position on the fixity of species. Morton was able to ride that wave of opinion in the interim between the 1830s and the debut of Darwin's *Origin of Species* in 1859, and in the process he also managed to challenge biblical ideas about the origin and unity of mankind. His greatest problem and logical flaw was that his inability to embrace the transmutation of species, seemingly corroborated by morphological evidence, left separate origins as the only viable alternative. The brief scale of time in which he considered the whole of human history was another limiting factor that left little question about fixity in the face of the evidence he possessed. He was not alone in this dilemma, and there is a signal lesson in it that bears on the study of the history of science more broadly. It is not unusual nor should it be surprising that these kinds of presumptions bring erroneous conclusions, or that biases and prejudices should creep into early attempts to transform ethnology into a 'science of man'. We see from where we stand. Taking this into consideration does not excuse Morton or any of the other American School ethnologists. It does, however, underline human fallibility and complicate the question of real intentions.

The greater tragedy was in the ways that Morton's work was used and distorted, both during his life and after he died in 1851. Pro-slavery advocates were quick to seize on the conclusions of the new racial science and use it for political and ideological ends. Scientific disinterest, and even the credible appearance of it, are quite powerful.

In 1978, Harvard biologist and historian of science Stephen Jay Gould wrote an article in the magazine *Science*, titled "Morton's Ranking of Races by Cranial Capacity." This article brought Morton's work back into the more recent public discourse on race and determinism in biology, and led to a book-length treatment of the subject by Gould, *The Mismeasure of Man*, first published in 1981. Gould expanded the book and released a second edition in 1996 in response to the 1994 release of the book *The Bell Curve*, written by Richard Herrnstein and Charles Murray. Gould was troubled by what he saw as a resurgence of the same old (and dangerous) ideas about determinism in human capacity that had given rise to the American School as well as eugenics programs of the twentieth century.

Looking at Morton's work with crania, Gould sought to verify if in fact Morton's measurements were correct, so he recalculated the data and published his results. Gould's finding was that Morton had indeed slanted his results to more clearly demonstrate a racial hierarchy from Negro to Caucasian. In his own words, Morton had produced "a patchwork of fudging and finagling in the clear interest of controlling a priori convictions."[31]

In a rare case where the historian of science has become part of the history, a group of physical anthropologists from the University of Pennsylvania decided to test Gould's claim by remeasuring the skulls themselves. This was in 2011; Gould had passed away in 2002. Their findings were that Morton had in fact *not* doctored his data. Gould had originally speculated that Morton's errors were probably not intentional, but done

[31] Gould, Stephen Jay. *The Mismeasure of Man*. W. W. Norton and Company. New York. 1996. P. 86.

unconsciously. He also claimed that Morton skewed the results by eliminating subgroups. Yet the anthropologists who remeasured the skulls found that Gould had also eliminated subgroups in his calculations, and when they corrected for this, the average cranial capacities were as Morton originally stated. They went on to state that Morton never actually constructed a racial hierarchy of intelligence.[32] However, the many stark judgments Morton made about the intelligence and proclivities of the darker races correlate strongly with his statistical findings.

[32] Wade, Nicholas. "Scientists Measure the Accuracy of a Racism Claim." *The New York Times*. June 13, 2011. http://www.nytimes.com/2011/06/14/science/14skull.html?_r=0

Chapter 5:

Louis Agassiz

Jean Louis Rodolphe Agassiz (1807-1873) was one of the preeminent naturalists and geologists of his age. By the time he immigrated to America in 1846, he was already famous in scientific circles for his pioneering multiple volume work on fossil fishes and his theory of ice ages. He was born in Motier, Switzerland, to a father who was an assistant pastor and a mother who had given birth to four male children before him, none of whom had survived infancy.[33] He was raised by his pious father and a firm but doting mother who was intent on seeing her son succeed. By his early twenties, Agassiz had studied at the Universities of Zurich, Heidelberg, and Munich, and took his doctor of philosophy degree at Erlangen and his doctor of medicine at Munich. Within a few more years, he had met and impressed the famed paleontologist Georges Cuvier to the extent that he handed Agassiz all of his research on fossil fishes and asked him to finish it. He made a similar impression on Alexander Von Humboldt, who through the patronage of the King Friedrich Wilhelm IV of Prussia, helped arrange for Agassiz's trip to the United States. This fast-forward introduction to Louis Agassiz's life story is not intended to take the place of a biography. It is merely to state at the outset that Louis Agassiz was uniquely talented among the scientists of his day, and he knew it.

When Louis Agassiz first traveled to the United States on an assignment to compare the flora and fauna he found there with that of Europe, he soon accepted an

[33] Lurie, Edward. *Louis Agassiz: A Life in Science*. Johns Hopkins University Press. Baltimore. 1988. P. 4.

invitation to deliver what became a series of sold-out lectures at the Lowell Institute. Agassiz became an instant celebrity. It was during these first few months in the United States in late 1846 that Agassiz toured Philadelphia and met Samuel G. Morton for the first time. He was immediately impressed with Morton the man, but perhaps even more impressed with Morton's collection of human skulls, "The American Golgotha." In a letter he wrote to his mother in December of 1846, he remarked, "Dr. Morton's unique collection of human skulls is also to be found in Philadelphia. Imagine a series of six hundred skulls, mostly Indian, of all the tribes who now inhabit or formerly inhabited America. Nothing like it exists elsewhere. This collection alone is worth a journey to America."[34]

This exposure alone was not enough to convert Agassiz to polygenism. It is uncertain when exactly it happened. Much has been made in the secondary literature of Stephen Jay Gould, Louis Menand, and others of the letter written to his mother detailing his "conversion experience" after his first encounter with a Negro:

> I can scarcely express to you the painful impression that I received, especially since the feeling they inspired in me is contrary to all our ideas about the confraternity of the human type [genre] and the unique origin of our species. But truth before all. Nevertheless, I experienced pity at the sight of this degraded and degenerate race, and their lot inspired compassion in me in thinking that they are really men. Nonetheless, it is impossible for me to repress the feeling that they are not of the same blood as us. In seeing their black faces with their thick lips

[34] Agassiz, Elizabeth Cary. *Louis Agassiz: His Life and Correspondence.* Volume 2. Macmillan and Company. London. 1885. P. 417.

> and grimacing teeth, the wool on their head, their bent knees, their elongated hands, their large curved nails, and especially the livid color of the palm of their hands, I could not take my eyes off their face in order to tell them to stay far away... What unhappiness for the white race – to have tied their existence so closely with that of negroes in certain countries! God preserve us from such a contact![35]

For all of its shock value, the letter stands somewhat alone as private correspondence between Agassiz and his mother. Agassiz never became an author of books on the subject of polygenism, making his role in the American School somewhat specialized. His lecture trip to Charleston, South Carolina, a year later further cemented his polygenist views.[36] But it wasn't until 1850 that Agassiz wrote the first of three controversial articles for the *Christian Examiner* outlining his actual position on polygeny.

In his first article for the *Christian Examiner*, dated March, 1850, Agassiz began with the assertion that the idea of a single center of creation was a modern fabrication mentioned nowhere in the Bible.[37] He argued instead that we must look at the plan behind the distribution of plants and animals in geographic zones, and notice that they're uniquely suited to live in those environments. Animals, he said, are scattered around the globe "according to such laws, and under such special adaptations, that it would baffle

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[35] Lous Agassiz to his mother. December, 1846. Reprinted in Gould, *The Mismeasure of Man*.. Pp. 76-77.

[36] Marcou, Jules. *Life, Letters, and Works of Louis Agassiz*. Volume 1. MacMillan and Company. New York. 1896. Pp. 292-293.

[37] Agassiz, Louis. "Geographical Distribution of Animals." *The Christian Examiner*. March, 1850. P. 181.

the most fanciful imagination to conceive such an arrangement as the mere result of migrations, or of the influence of physical causes over the dispersion of both animals and plants."[38] He then argued that species could not have arisen in single pairs. While some exist in herds, others exist in specialized proportions – for example, one male to many females. He goes on to note that if species had in fact arisen in pairs, as opposed to being planted in fully developed populations by the Creator, the first carnivores would have eaten the first herbivores before they had the chance to reproduce.

Agassiz's first published article of his explicit views on polygeny demonstrates two important points for the purposes of this paper. First, Agassiz's primary support of polygeny stemmed from his theories and concerns relating to biogeography. Agassiz was a disciple of Cuvier to the end. In Cuvier's world, fixity was a rule and all living beings fell under one of four plans of morphology, or *embranchements*, as outlined by the Creator: Vertebrata, Mollusca, Articulata, and Radiata. Moreover, Cuvier believed that form resulted from function, meaning that similarities in structure or morphology between species had nothing to do with common ancestry. Thus, the underpinnings for Agassiz's support of polygenism were unique among those in the American School. Questions about ethnology were at best peripheral to Agassiz. He saw no pressing need to publish books on the subject or engage in debates over slavery. His scientific and professional goals during the last twenty five years of his life in the United States were to train naturalists to understand nature according to this model, and to impart his methods of analysis based on firsthand observation. He thought ethnology was an interesting

[38] Ibid., p. 183.

field, but it is clear that he never officially counted himself an ethnologist.

Second, the article reveals that Agassiz was not shy in opposing commonly held Christian views about the origin of mankind. Agassiz was no biblical literalist. Personal piety notwithstanding, he felt at liberty to reason statements in the Bible as invalid in light of what he knew to be true as a naturalist, and he had no reservations in voicing that position. The fact that someone like Agassiz would even assail the authority of the Bible publicly speaks to the book's declining authority by the mid-nineteenth century on matters of natural history.

Agassiz continued his critique of biblical dogma in his second article in the *Christian Examiner,* which appeared in July of 1850. He began by declaring, "We have a right to consider the questions growing out of men's physical relations as merely scientific questions, and to investigate them without reference to either politics or religion."[39] The fallout from his previous article is evident in the decision to write this preface before proceeding. Agassiz's first priority was to establish that questions about the mind of the Creator and the origin of mankind are the province of natural history and have nothing to do with religion.[40] An explanation of how the nations were founded is nowhere to be found in Genesis, he argued. Moreover, in Agassiz's mind the theory of multiple origins had nothing to do with the issue of slavery, and least of all did it indicate support of the institution. Rather, he believed that these questions about human origins pertained equally to all peoples of the earth.

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[39] Agassiz, Louis. "The Diversity of Origin of the Human Races." *The Christian Examiner.* July, 1850. P. 110.

[40] Ibid., p. 111.

Philosophically and theologically, Agassiz had backed himself into a corner. He claimed in the second article that he had been misunderstood on the species question. On the one hand, he had already declared that mankind must have sprung from multiple origins. Now he was ready to declare that humans were all still of one species. This in Agassiz's mind resolved the problems of hybridity and interfertility that Morton had hotly debated in print with John Bachman, the clergy naturalist from South Carolina. Agassiz claimed, to virtually no one's relief or clear understanding, that while mankind came of separate origins, he was still of one species through his relation to the Creator.[41] The Creator, he argued, had merely planted the different races in various parts of the world, but He made them capable of interfertility as well. Agassiz also attempted to explain how in some cases two species that we acknowledge as distinct can interbreed, while other species combinations cannot. It was simply that the rules for different species varied according to their general type.[42] Three years earlier Agassiz had written an article in the *American Journal of Science and Arts* revealing a problem with the logic of polygenism as it related to so-called 'hybrid crosses' between different races of mankind.[43] The fact that they produced fertile offspring seemed to negate the suggestion that they were separate species. Regardless, Agassiz would further revise his position later on when addressing the issue of slavery and miscegenation. His concern on this point was that even though a hybrid cross could produce fertile offspring – for example, a mulatto – that offspring would be weaker in health, not as long-lived, and over multiple

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41 Ibid., p. 113, 117.
42 Ibid., p. 13.
43 Agassiz, Louis. "Hybridity in Animals, Considered in Reference to the Question of the Unity of the Human Species." *American Journal of Science and Arts*. Second series. Volume 3. May, 1847. Pp. 39-50, 203-211.

generations would lose much of its fecundity.

The significance of Agassiz's participation in the American School was that the movement now had its own high profile celebrity, a respected European scientist of great renown, no less. Agassiz was willing to lend his name to any cause that he supported without much apparent concern over the outcome or detriment to his reputation. At times he would value friendships over professional scruples. This character trait was revealed, for example, in a controversy in 1853 involving French geologist Jules Marcou. Agassiz and Marcou were close friends, and Agassiz sponsored and endorsed a geological map of Marcou's authorship for publication after it had been found to contain blatant errors. Agassiz did this despite the protests of his American colleagues James Dwight Dana and James Hall. This resulted in a significant professional and personal rift that lasted for many years.[44]

The measure of Agassiz's prestige became apparent at the annual meeting of the American Association for the Advancement of Science in March, 1850, which was the signal event that brought him into the public fray over pluralism. The meeting took place in Charleston, South Carolina, and others already embroiled in the monogeny/polygeny debate such as Josiah Nott and John Bachman were present. Nott delivered a talk on the "Physical History of the Jews, and Its Bearings on the Question of the Unity of the Races," and Agassiz made a remark during the open forum that the races of man were distinct species with separate origins. It caused quite a stir among those present to hear a scientist of such repute contradict both the Bible and the accepted idea of common

[44] Lurie, Edward. *Louis Agassiz: A Life in Science*. Pp. 271-274.

descent. Noting the sudden controversy, Agassiz asked permission to speak again in order to clarify his position. He said that while all of the races of men possessed "all the attributes of humanity," "these races did not originate from a common centre, nor from a single pair."[45]

Nott was ecstatic. At last he had gained the support he had been seeking. Agassiz was now counted among the polygenists, even if he did not fully understand the social and political implications of that choice. In a letter to Morton, Nott wrote:

> With Agassiz in the war the battle is ours. This was an immense accession for we shall not only have his name, but the timid will come out of their hiding places. I have been agitating, agitating till I have got … Agassiz into the fight … The parsons now are certainly in the way of being licked.[46]

In the ensuing years Agassiz and Nott became close friends. In 1854, when Nott asked Agassiz to write an introductory essay for inclusion in his upcoming book *Types of Mankind*, Agassiz was happy to oblige. To read the essay and compare it to the message and tone of the rest of the book, it is likely that Agassiz never actually saw the prose of the book itself beforehand. Agassiz's willingness to add his name to such a work was catastrophic to his legacy as a scientist. When James Dwight Dana saw Agassiz's name affixed to Nott's book, he wrote to Agassiz and received from him this response:

> As to your allusion to my paper in Nott and Gliddon's *Types of Mankind*, I can

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[45] *Proceedings of the American Association for the Advancement of Science. Third Meeting, Held at Charleston, South Carolina. March, 1850*. Steam Power Press of Walker and James. South Carolina. 1850. Pp. 106-107.

[46] Nott to Morton. May 26, 1850. Manuscript Collections, Library Company of Philadelphia; also Nott to Squier. May 4, 1850, Squier Papers. Quoted by Edward Lurie in "Louis Agassiz and the Races of Man." *Isis.* Vol. 45, No. 3. September 1954. P. 237.

> have no objection at your finding it out of place there. Yet I do not regret contributing it. Nott is a man after my heart, for whose private character I have the kindest regard. He is a true man, and if you knew what he has had to suffer from the criminations of bigots, like Professor Lewis, you would not wonder at his enmity to such men … All the difference is that he has no sympathy with their church. But I know him to be a man of truth and faith. Gliddon is worse, especially in his utterance, and has allowed his resentment to mislead him to personalities which all his friends blame. But I would rather meet a man like him, who knows as much as he does about antiquity, and who cares to investigate it, than any of those who shut their eyes against evidence.[47]

The above passage illustrates the value system of Agassiz where it involved personal support of friends and colleagues. It also reveals how Agassiz and Nott agreed in their opposition to what they saw as clerical meddling in the field of natural history. Whenever Agassiz was questioned or criticized about his scientific views and their political implications, he was quick to dismiss it and assert his freedom of inquiry as a scientist. If we are to believe his own statements on the matter, then the freedom to advance any program he wished to support was at least as important to him as the content and possible aims of the program itself.

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[47] Gilman, Daniel C. *The Life of James Dwight Dana*. Harper and Brothers Publishers. New York. 1899. Pp. 324-325.

Chapter 6:

Josiah Clark Nott and *Types of Mankind*

If we can credit one man as having been the architect of the American School, that man was Josiah Clark Nott (1804-1873). Nott was a physician and surgeon who had been born in South Carolina, received an undergraduate education in Pennsylvania, and postgraduate medical training in Paris. He then settled in Mobile, Alabama, where he helped found the Medical College of Alabama in 1858. Beyond his training in anatomy, Nott was also an epidemiologist of note and was both an early supporter of the mosquito vector theory on the causes of malaria, and the first to suggest a similar cause for yellow fever.

Of all the principal members of this loosely knit group, Nott was the one who clearly did support the continuation of slavery in the United States. By 1854, Nott was set to release what he believed to be his masterwork on ethnology. This book, he thought, would settle all questions about the plurality of origins, and he sought to muster every shred of questionable evidence and professional support he could get. *Types of Mankind* was a collaborative effort primarily of Nott and Gliddon, but the cover page gave credit to Samuel Morton in equal prominence ahead of Nott's and Gliddon's names (Morton was by then dead three years), then came Agassiz, William Usher, and Henry S. Patterson. The book is dedicated to Morton, with a touch-me-not rendered portrait of him preceding the title page. The title itself promises to deliver "Selections from the Inedited Papers" of Morton, and throughout the book the authors make every attempt to canonize

Morton's name and reputation. He was, after all, their main (if tenuous) link to scientific disinterest and objectivity.

Nott had studied ethnology with Morton and for years remained in close correspondence with him despite the physical distance between Mobile and Philadelphia. After Gliddon's introduction we find a "Memoir of the Life and Scientific Labors of Samuel George Morton," penned by Henry S. Patterson, M.D. The memoir is included as if to buffer or shield the inner contents from so much scrutiny and doubt, followed by Agassiz's essay as an additional buffer. From there, neither of the two luminaries, Agassiz and Morton, had anything directly to do with the making of the book. Agassiz's essay is manifestly out of place and written with scant foreshadowing of what is to come. The essay reads like another exposition of Agassiz's theory of biogeography, with little direct connection to the theme of the larger work except to declare that populations of animals exist in geographical provinces. Agassiz also included an explanation of Morton's contribution to his own longstanding problem in formulating a suitable definition of species. Morton had relayed that he saw species as a "primordial organic form," a definition that Agassiz always favored and often repeated from the day he first heard it.[48] An odd twist comes near the end of the essay, where Agassiz exclaims, almost out of the blue:

> I am prepared to show that the differences existing between the races of men are of the same kind as the differences observed between the different families, genera, and species of monkeys or other animals; and that these different species

[48] Nott, Josiah Clark. Gliddon, George Robins, et al. *Types of Mankind.* P. lxxiv.

> of animals differ in the same degree one from the other as the races of men – nay, the differences between distinct races are often greater than those distinguishing species of animals one from the other. The chimpanzee and gorilla do not differ more one from the other than the Mandingo and the Guinea Negro: they together do not differ more from the orang than the Malay or white man differs from the Negro.[49]

He then concludes with a map of the various biological provinces, listing the different "realms" alongside the human types that occupy them.

Following Agassiz's essay, the body of *Types of Mankind* consists of an admixture of the old and the new, the appearance of cutting edge research sprinkled with proslavery and polygenist arguments at every turn. The visual design of the work is intended to appear scientific and objective, and the size of the book itself, at nearly 800 pages with profuse illustrations, is impressive. Nott and Gliddon no doubt understood the importance of presentation, which in the end guaranteed that the subscription lists were full. Though expensive, the first printing sold out in record time, and the book ran to nine editions until the end of the nineteenth century.[50]

Nott authored the first main section of the book on ethnology, which was for the most part a reworking of previously published material. Gliddon wrote the other major portion on Egyptology, and William Usher contributed a chapter on geology and paleontology. Reviews of the book were mixed, with some ringing its praises for its thoroughness and what they deemed its sound scientific methods, while others

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[49] Ibid.
[50] Stanton, William. *The Leopard's Spots*. P. 163.

condemned its anti-biblical theories.[51] Regardless, Nott and Gliddon no doubt received what they wanted from the enterprise. Ethnology, we must remember, was in all connotations a popular science. *Types of Mankind* was a book designed to look scientific but convince lay readers, and the people were talking. Nott and Gliddon, because of the qualified success of *Types of Mankind*, produced a follow-up book titled *The Indigenous Races of the Earth* in 1857, which sold in more modest numbers but received a similar fanfare upon release.[52]

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[51] William Stanton gives more thorough attention to the reception and reviews *Types of Mankind* received in the press. Ibid., Pp. 163-170.

[52] Ibid., p. 176.

Chapter 7:

Conclusion – The End of the American School

On August 3rd, 1863, Louis Agassiz received a letter from Samuel Gridley Howe. Howe had been appointed by U.S. Secretary of War Edwin Stanton to head the Freedmen's Inquiry Commission, a body whose purpose was to investigate the prospects and status of slaves freed by The Emancipation Proclamation. Howe thought it wise to consult a scientific authority on the subject, especially one versed in ethnology and related topics. He posed several questions to Agassiz relating to mulattoes and their ability to reproduce, and what the population of pure Negroes might be in relation to whites and mulattoes in the long term.

> Among these questions, this one occupies me most now. Is it probable that the African race, represented by less than two million blacks and a little more than two million mulattoes, unrecruited by immigration, will be a persistent race in this country? Or will it be absorbed, diluted, and finally effaced by the white race, numbering twenty-four millions, and continually increased by immigration, besides natural causes.[53]

Agassiz penned his response without delay. He wrote that if the black race was not going to remain distinct and in large numbers on the continent, a wise policy would be to find a way to relocate them and encourage emigration. If they did persist, said Agassiz, then the United States would face the problem of the "combination in one social

[53] S. G. Howe to Louis Agassiz. August 3, 1863. Agassiz, Elizabeth Cary. *Louis Agassiz: His Life and Correspondence.* Volume 2. Macmillan and Company. London. 1885. P. 592.

organization of two races more widely different from one another than all the other races."[54] He then points out that according to his understanding, all of the human races are notable in the biological world for their ability to propagate in any region or climate. Agassiz even quotes his own theory of multiple origins, and states that despite being innately suited to their indigenous regions of the earth, this does not curtail their ability to thrive elsewhere.[55] He goes on:

> But wherever it is practiced, amalgamation among different races produces shades of population, the social position of which can never be regular and settled. From a physiological point of view, it is sound policy to put every possible obstacle to the crossing of the races, and the increase of half-breeds. It is unnatural, as shown by their very constitution, their sickly physique, and their impaired fecundity. It is immoral and destructive of social equality as it creates unnatural relations and multiplies the differences among members of the same community in a wrong direction.[56]

On the question of human rights, Agassiz went on in the exchange to say that all men deserve to be equal before the law, but:

> History teaches us what terrible reactions have followed too extensive and too rapid changes. Let us beware of granting too much to the negro race in the beginning, lest it become necessary hereafter to deprive them of some of the privileges which they may use to their own and our detriment. All this I urge with

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[54] Ibid., p. 595.
[55] Ibid., Pp. 596-597.
[56] Ibid., p. 599.

> reference to the pure blacks of the South. As to the half-breeds, especially in the Northern States, I have already stated it to be my opinion that their very existence is likely to be only transient, and that all legislation with reference to them should be regulated with this view, and so ordained as to accelerate their disappearance from the Unites States.[57]

By the time of this correspondence, the American School was no more. It is most unfortunate that it had lasting effects. Agassiz reveled in his one last chance to air his theory of multiple centers of creation, and to relay the fear he felt over miscegenation as the possible ruin of all. Agassiz, like many of his day, was not an egalitarian, and it is tragic that he allowed his discriminating sense as a naturalist and taxonomist to dominate his speculations in ethnology. Stephen Jay Gould once pointed out that among naturalists, there are 'lumpers' who see groupings and similarities, and there are 'splitters' who see mostly differences. Agassiz, as Gould noted, was indeed a splitter among splitters.[58] He had built his career on that priority. Agassiz, after all, had always hoped to be remembered as the true protege of George Cuvier – the shrewd and discerning eye. Morton, on the other hand, died only knowing that he had succeeded in cataloging and measuring his skulls, and that his investigations had shed some light on questions about the persistence of human types over millennia of time. Meanwhile, Nott eventually embraced Darwinism and abandoned the idea of fixity altogether.

The arc of the American polygenist movement's existence was that Morton established its legitimacy with scientific disinterest, Agassiz as a scientific opportunist

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[57] Ibid., p. 608.
[58] Gould. *The Mismeasure of Man*. P. 76.

popularized it, and Nott inherited and distorted it toward proslavery ends. Pluralism as a viable theory of human origins depended on erroneous assumptions about the fixity of species and the time span of man's existence. The concept of species has always been a useful fiction, as it presents a philosophical dilemma for biologists and others who attempt to reconcile change with the concreteness of fixed labels and language. Scientific racism neither began nor did it end with this episode. In the case of nineteenth century ethnology, attempts to scientize race enabled the reinforcement of biases and folk beliefs that threatened to shape policy and justify human bondage. Thankfully it failed, but the danger of this tendency is ever apparent, making the story of the American School of Ethnology a perennial lesson.

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